## REMARKS/ARGUMENTS

Reconsideration of the present application as amended is respectfully requested.

Claims 1, 10 and 14 have been amended, claim 15 has been canceled, while claim 3 had been previously cancelled , claims 2-9, 11-13 and 16-21 remain in this application.

Amendments to claim 1 merely clarify the content of the existing claim. Amendments to claims 10 and 14 merely add the limitations of claim 15 to claims 10 and 14.

The Examiner rebutted arguments made by applicant as follows:

"In re pages 9-11, applicant argues that Okuyama et al. discloses a method of recording digital television signals at varying data rates. The data rates are adjusted according to the importance of the material to the user and according to the underlying quality of the source video but fails to disclose detecting shot-cuts in the content item and adjusting the period of time based on the detected shot-cut, as recited in claim 3.

In response, the examiner respectfully disagrees. Okuyama et al. discloses in fig. 5-6, paragraph 0036-0038 that" ... a bit rate after conversion with a rate converter during one program .... bit rate C with the lowermost level represents ....commercials was detected .... bit rate B of the medium level represents ...a usual program.... bit rate A of the high level represents a case when broadcasting of highlights was detected by program information if recording in the same program is conducted by taking the contents into account, then the entire quantity of data can be reduced by recording only the contents with a high priority as high-quality video and recording other contents at a low bit rate ....." <u>Okuyama et al. discloses a different bit rate of a program having shot-cuts of commercial, a usual program, broadcasting of highlights. While a program is recording, the entire quantity of a data is reduced by recording only the contents with a high priority as high quality video and recording other contents at a low bit rate</u> which adjust a period of time by reducing the quantity of data based on the detected high quality video" office action at page 2-3, emphasis added.

Applicant notes that a reference is made to claim 3 in the first paragraph cited above. Claim 3 was cancelled in a previous

response. Applicant presumes that the Examiner is referring to claim 1.

Examiner goes on reject claim 1 under 35 USC 102(e) as being anticipated by US 2005/0276567 Okuyama et al. In particular the Examiner suggests that Okuyama discloses the <u>detection</u> of shot-cuts when a commercial is recorded at a different data rate than another part of the video stream.

A shot in video terminology is typically composed of an uninterrupted sequence of frames adjacently captured by the same camera. Hard-cuts and gradual transitions are two main types of transitions between two shots. Detection of a shot-cut is a detection of the transition between two shots. Programs and commercials typically consist of many different shots.

Okuyama disclose the use of a rate converter for recording different programs at different data rates, so as to optimize the use of limited storage capacity, according to user preferences or user tendencies as shown in the summary of the invention reproduced below:

> "[0006] If programs are always recorded according to a decision that is made based on the user preferences survey results or specific categories and user's recording instruction, the user will lose the opportunity to view programs of categories other than the user preferences. Further, if the entire viewable broadcast is recorded without any selection, a problem arises that there are required greatly increased storage capacity and greatly increased capacity of processing the bit rate required for the

recording. It is an object of the present invention to enable the reproduction of a program matching the user preferences in a high-quality video.

[0007] The present invention provides a recording equipment comprising at least one tuner capable of receiving a broadcast of a plurality of channels and <u>rate converters for changing a bit rate for each channel after separation when the output of the tuner</u> includes a plurality of channels which have been multiplexed, wherein the history of the programs that have been viewed by the user is recorded as the usage history, the usage tendency of the user is extracted from the usage history with an agent, <u>a decision is made as to whether the program selected for each channel matches the usage tendency of the user</u>, and in case of matching, the recording is made on a recording medium directly at a bit rate allowing the high-quality video to be maintained, whereas when the usage tendency of the user is not matched, recording is made on the recording medium upon conversion to a low bit rate" Okuyama, paragraphs 0006 and 0007, emphasis added.

Furthermore that exact use of the rate converter is specified by Okuyama " In the present embodiment, the agent 4 analyzes the usage tendency of the user based on the usage history, <u>determines the program matching the usage tendency from the program guide</u>, passes the program matching the usage tendency through the <u>rate converter</u> <i>11a</i> at a high bit rate and without compressing, indicates a low-bit rate with a high compression for the program that does not match the usage tendency, <u>converts the bit rate with rate converters</u> 1Ib, 1Ie, and records the output thereof on recording medium 13 via recording and reproducing control unit 12" Okuyama paragraph 0021, emphasis added. Clearly the rate converter converts an existing data stream to a lower bit rate or higher bit rate recording based on user tendencies.

The Examiner in fact concedes that Okuyama is changing a bit rate of a recording and not detecting a change in the bit rate of an input data stream "Okuyama et al. discloses a different bit rate of a program having shot-cuts of commercial, a usual program, broadcasting of highlights. While a program is recording, the entire quantity of a data is reduced by recording only the contents with a high priority as high quality video and recording other contents at a low bit rate", office action at page 2, emphasis added.

Finally the examiner suggests that the detection of shot-cuts is described by Okuyama Figures 5 and 6 and the following text " FIG. 5 is a performance chart illustrating another example of rate conversion operation of the rate converter in accordance with the present invention. This figure illustrates a bit rate after conversion with a rate converter during one program. The bit rate C with the lowermost level represents a case when broadcasting of commercials was detected, for example, by changes in the voice mode. The bit rate B of the medium level represents a case when a usual program has been broadcasted. Further, the bit rate A of the high level represents a case when broadcasting of highlights was detected by program information. With the present embodiment, highlights of major interest can be recorded as a high-quality video. For commercials, the bit rate can be decreased and the

quantity of recorded data can be reduced. Thus, if recording in the same program is conducted by taking the contents into account, then the entire quantity of data can be reduced by recording only the contents with a high priority as high-quality video and recording other contents at a low bit rate", Okuyama, paragraph 0036, emphasis added. It is unclear how the use of rate converter to change the rate of a recording implies anything about the detection of a commercial or any other program element. The change in data rate of the recording is a <u>result</u> of detection and the not the <u>cause</u> of detection. Furthermore, the only mention of detection in this text is by means of voice mode which is not relevant to the detection of shot-cuts.

The MPEP requires that all element of a claim be present for a rejection under 102(a) "*A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)*" MPEP 2131. Likewise, the elements must be described in sufficient detail "*The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)*" MPEP 2131.

Applicant respectfully disagrees with the rejection by the examiner and the rebuttal arguments. Amended claim 1 claims a new method of detecting a change in a video stream e.g. a commercial break in a television program. Okuyama simply describes a single method of detection and suggests that other methods might be used i.e. "when broadcasting of commercials was detected, for example, by changes in the voice mode" Okuyama, paragraph 0036". Nevertheless, even if the suggestions of the examiner are accepted arguendo the instant invention is not disclosed nor suggested by Okuyama.

The instant invention claims the use of two different methods in a non-obvious combination. First, as claimed in amended claim 1 a detection is made of shot-cuts. Second, the interval of time between successive shot-cuts or the point in time of the occurrence of shot-cuts is used to compute an average or a moving average. Okuyama does show the use of different data rates for recording and arguendo implies the use of different averages for recording. Okuyama does not show or suggest a determination of a period of time for computing an average by means of shot-cuts. Since all of the elements of amended claim 1 are not shown or suggested by Okuyama applicant respectfully traverses this rejection.

The Examiner also rebuts the arguments of the applicant with regard to a moving average as follows:

"In re pages 11-12, applicant argues that Okuyama fails to disclose "wherein a moving average of the bit rate is determined" as recited in claim 4. In response, the examiner respectfully disagrees. In addition to paragraph 2 above, Okuyama discloses a different bit rate (A, B, and C) of a program causes a different average bit rate of different programs. Therefore, Okuyama et al. meets the limitation of a moving average of the bit rate is determined by the bit rate of the program" office action at page 2.

Examiner goes on reject claim 4 under 35 USC 102(e) as being anticipated by US 2005/0276567 Okuyama et al. In particular the Examiner suggests that Okuyama discloses the determination of a moving average when Okuyama discloses the use of different bit rates for recording programs resulting in different average rates for these recordings.

Averages of bit rates are computed by selecting a period of time in which to measure the average, compiling the number of bits sent or received in the time period and then dividing the compilation of bits by the time period to arrive at the number of bits in a unit of time e.g. bits/second. The next average would be computed using the next period of time without overlap of the previously used time period.

A moving average is computed by in the same way as an ordinary average but the next average is computed using a time period which overlaps the first time period. The size of the overlap is another parameter for computing a moving average.

The applicant respectfully disagrees with the conclusion of the examiner. The instant invention claims a detection of rate

change in an input video stream, not the implementation of a rate change in an output video stream (for recording purposes) as described by Okuyama. Okuyama describes making program selections on the basis of user tendencies or preferences and the use of voice mode, not on the basis of rate change of the input data stream. Since all of the elements of amended claim 4 are not shown or suggested by Okuyama applicant respectfully traverses this rejection.

The Examiner rejected claims 2, 4-6, 8, and 9 under 35 U.S.C. 102(e) as being anticipated by US 2005/0276567 by Okuyama et al. Since claims 2, 4-6, 8 and 9 depend from amended claim 1 and the rejection of amended claim 1 has been traversed, we respectfully traverse the rejection of claims 2, 4-6, 8 and 9.

The Examiner rejected claim 10 under 35 U.S.C. 102(e) as being anticipated by US 2005/0276567 by Okuyama et al. Claim 10 has been amended to include the limitation detecting shot-cuts in the content item and adjusting the period of time to compute the average based on the detected shot-cut. Okuyama does not show or suggest a determination of a period of time for computing an average by means of shot-cuts. Applicant respectfully traverses this rejection.

The Examiner rejected claims 11 and 12 under 35 U.S.C. 102(e) as being anticipated by US 2005/0276567 by Okuyama et al. Since claims 11 and 12 depend from amended claim 10 and the rejection of amended claim 10 has been traversed, we respectfully traverse the rejection of claims 11 and 12.

The Examiner rejected claim 14 under 35 U.S.C. 102(e) as being anticipated by US 2005/0276567 by Okuyama et al. Claim 10 has been amended to include the limitation detecting shot-cuts in the content item and adjusting the period of time to compute the average based on the detected shot-cut. Okuyama does not show or suggest a determination of a period of time for computing an average by means of shot-cuts. Applicant respectfully traverses this rejection.

The Examiner rejected claims 16-19 and 21 under 35 U.S.C. 102(e) as being anticipated by US 2005/0276567 by Okuyama et al. Since claims 16-19 and 21 depend from amended claim 14 and the rejection of amended claim 14 has been traversed, we respectfully traverse the rejection of claims 16-19 and 21.

The Examiner rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over US 2005/0276567 by Okuyama et al. Since claim 7 depends from amended claim 1 and the rejection of amended claim 1

has been traversed, we respectfully traverse the rejection of claim 7.

The Examiner rejected claim 13 under 35 U.S.C. 103(a) as being unpatentable over US 2005/0276567 by Okuyama et al. Since claim 13 depends from amended claim 10 and the rejection of amended claim 10 has been traversed, we respectfully traverse the rejection of claim 13.

The Examiner rejected claim 20 under 35 U.S.C. 103(a) as being unpatentable over US 2005/0276567 by Okuyama et al. Since claim 20 depends from amended claim 14 and the rejection of amended claim 14 has been traversed, we respectfully traverse the rejection of claim 20.

In view of the above, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

If any informalities remain, the Examiner is requested to telephone the undersigned in order to expedite allowance.

Please charge any fee deficiencies and credit any overpayments to Deposit Account No. 14-1270.

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Respectfully submitted,


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